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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,066	10/23/2003	Osamu Sekihata	FUJH 20.698	7290

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EXAMINER	
HAILE, FEBEN	
ART UNIT	**PAPER NUMBER**
2616	
MAIL DATE	**DELIVERY MODE**
05/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,066	SEKIHATA, OSAMU	
	Examiner	Art Unit	
	Feben M. Haile	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☒ Claim(s) *4-12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/23/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Kalman et al. (US 6, 680,912), hereinafter referred to as Kalman, in view of IEEE 802.17 Working Group, "Proposed Draft Standard: Part 17: Resilient Packet Ring Access Method and Physical Layer Specifications", hereinafter referred to as IEEE 802.17 Draft, in view of Oran (US 7,085,224), hereinafter referred to as Oran.

Regarding claim 1, Kalman discloses on detection of a link failure between mutually neighboring layer 2 switches, transmitting a failure notification frame packet

from each neighboring layer 2 switch **(figure 4 and column 6 lines 39-44; for a span break, the two nodes on the ends of the span will each send out a link status message reporting the failure to all nodes on the ring)**.

Kalman fails to explicitly suggest in the layer 2 switch having received the failure notification frame, recording a Media Access Control (MAC) address of said layer2 switch into the failure notification frame, and transferring the failure notification frame to a neighboring layer 2 switch.

IEEE 802.17 Draft teaches a node transmits topology discovery packets to another node, that node updates the topology map with a MAC address, and forwards it to the next node where the updating and forwarding is repeated. Furthermore, besides discovery, the topology could be updated when a fiber failure is detected **(page 85; section 13 Topology Discovery)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the topology discovery method taught by IEEE 802.17 Draft into the ring topology disclosed by Kalman. The motivation for such a modification is to provide a protection mechanism.

Kalman, IEEE 802.17 Draft, and/or their combination fail to explicitly suggest providing in each layer 2 switch an address learning table in which a Media Access Control (MAC) address and a corresponding port are stored.

Oran teaches an Ethernet layer 2 switch **(figure 1 unit 14 and column 2 lines 43-44)** that includes a table that identifies MAC addresses associated with each port **(figure 6 unit 62 and column 4 lines 41-42)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the fast failure detection taught by Oran into the fast communication topology in a ring network disclosed by Kalman as modified by the topology discovery method suggested by IEEE 802.17 Draft. The motivation for such a modification is decreasing the number of data loss that occurs by traveling over failures.

Regarding claim 2, Oran discloses wherein, on receipt of the failure notification frame in a layer 2 switch having a blocking port, said layer 2 switch stores a record, indicative of the layer 2 switch of interest having a blocking port, into the failure notification frame **(column 3 lines 14-20; the switch sends a failure notification message when determining a port is no longer operational)**.

Regarding claim 3, Kalman transmitting a failure notification frame packet from the layer 2 switch having detected the failure; recording a Media Access Control (MAC) address of the layer 2 switch having received the failure notification frame into said failure notification frame; and transferring the failure notification frame to a neighboring layer 2 switch **(figure 4 and column 6 lines 39-44; for a span break, the two nodes on the ends of the span will each send out a link status message reporting the failure to all nodes on the ring)**.

Kalman fails to explicitly suggest transmitting a state notification frame from a layer 2 switch connected in the ring shape successively to neighboring layer 2 switches; in the neighboring layer 2 switch, detecting that the corresponding neighboring layer 2 switch is faulty when the state notification frames are not received for a predetermined number of times.

IEEE 802.17 Draft teaches a node transmits topology discovery packets to another node, that node updates the topology map with a MAC address, and forwards it to the next node where the updating and forwarding is repeated. Furthermore, besides discovery, the topology could be updated when a protection switch is requested **(page 85; section 13 Topology Discovery)**, where a protection switch is initiated around a station that is marked faulty because it did not receive a fairness packet that is sent periodically to all the stations within a keep-alive time out interval **(page 83; section 12.5 RPR Fairness Packet)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the topology discovery method taught by IEEE 802.17 Draft into the ring topology disclosed by Kalman. The motivation for such a modification is to provide fair access for all stations on the ring.

Kalman, Darwin, and/or their combination fail to explicitly suggest providing in each layer 2 switch an address learning table in which a Media Access Control (MAC) address and a corresponding port are stored.

Oran teaches an Ethernet layer 2 switch **(figure 1 unit 14 and column 2 lines 43-44)** that includes a table that identifies MAC addresses associated with each port **(figure 6 unit 62 and column 4 lines 41-42)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the fast failure detection taught by Oran into the fast communication topology in a ring network disclosed by Kalman as modified by the

topology discovery method suggested by IEEE 802.17 Draft. The motivation for such a modification is decreasing the number of data loss that occurs by traveling over failures.

Allowable Subject Matter

3. Claims 4-12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000

05/24/2007

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